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FAEGRE & BENSON LLP
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EXAMINER

SYED, FARHAN M

ART UNIT	PAPER NUMBER
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2165

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/747,631

Applicant(s)

MCKEON ET AL.

Examiner

Farhan M. Syed

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 20041112, 20041124.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-38 are pending.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figures 1-4 contain handwritten elements in an attempt to describe the disclosed embodiments, where the Examiner is uncertain as to what the Applicant is attempting to explain.. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

4. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because Figure 4 is not referenced in the Applicant's specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

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amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

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Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)),

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and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

9. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

10. Claims 34 and 35 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

As per claim 34, the claim recites a computer program product according to claim 1, however claim 1 addresses the method of aggregating data.

As per claim 35, the claim recites a computer program product according to claim 29, however claim 29 addresses an apparatus arranged under the control of software for aggregating data.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claim 1 recites the limitation "the data" in line 4. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 2 recites the limitation "the format" in line 2. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 3 recites the limitation "the standardised data" in line 2. There is insufficient antecedent basis for this limitation in the claim.

15. Claims 6-8 recites the limitation "the respective data types" in line 2 of claim 6 and line 1 of claims 7 and 8. There is insufficient antecedent basis for this limitation in the claim. The limitation of "the respective data types is not defined or mentioned in claim 1, of which claim 6 depends upon.

16. Claim 9 recites the limitation "the respective data" in line 2. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 12 recites the limitation "the application" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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18. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites "quality of the data" in line 2 of claim 5, but fails to identify what type of data is being claimed (i.e. aggregate, received, or clean data).

19. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites "standardising the data" in line 2 of claim 12, but fails to identify what type of data is being claimed (i.e. aggregate, received, or clean data).

The Examiner requests the Applicant review the remaining claims and correct additional 35 U.S.C. 112, second paragraph that may exist based on the claim limitations.

Claim Rejections - 35 USC § 101

20. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 29-35 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 29-33, these claims recite an "apparatus under the control of software." The Examiner interprets "the control of software" as a computer program product executed on a computer. Based on the Applicant's specification, page 31, lines

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5-7, the computer program product may be carried by a signal or a media based data carrier. However these data signals are not tangible, and cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the data signal. Computer program or processes are only realized within the computer when stored in a memory or storage element (such as RAM or ROM). Therefore, a data signal does not meet the "useful, concrete, and tangible" requirement as set forth in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 25-32 are non statutory under 35 U.S.C. 101. Furthermore, the Examiner refers to the Interim Guidelines (http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf) for a further explanation of the use of signals and carrier waves.

As per claims 34 and 35, these claims recite a "computer program product comprising at least one data carrier" Based on the Applicant's specification, page 31, lines 5-7, the computer program product may be carried by a signal or a media based data carrier. However these data signals are not tangible, and cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the data signal. Computer program or processes are only realized within the computer when stored in a memory or storage element (such as RAM or ROM). Therefore, a data signal does not meet the "useful, concrete, and tangible" requirement as set forth in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 25-32 are non statutory under 35

U.S.C. 101. Furthermore, the Examiner refers to the Interim Guidelines

(http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf) for a further explanation of the use of signals and carrier waves.

Claim Rejections - 35 USC § 102

21. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

22. Claims 1-16, 24-26, and 28-38 rejected under 35 U.S.C. 102(e) as being anticipated by Vlahos et al (U.S. Patent Pub. 2002/0133504 A1 and known hereinafter as Vlahos)

As per claim 1, 29, 36, 37, and 38, Vlahos teaches a method of aggregating data comprising the steps of (i.e. *"a first accumulator that aggregates data to generate a first aggregates data representation, and using a second accumulator to generate a second aggregates data representation based on the first aggregates data representation from the first accumulator."*)(Abstract): receiving data (i.e. *"A distributed data processing system may include an interface that receives a data processing request from a requesting entity..."*)(Abstract) from a plurality of sources (i.e. *"The systems and techniques described here may provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats."*)(paragraph 20); cleaning the received data

(i.e. *"The first is to build a centralized data warehouse. This requires data cleansing, data association, and a periodic population (i.e., update) of the repository so it can be accessed consistently by all applications."*)(paragraph 9), whilst maintaining an audit trail of any changes made to the data in the cleaning step (i.e. *"The application server 36 keeps a log of a user's actions in an audit trail 100, which may be as simple as a text file or something more structured, such as a relational database. This database can be used to generate an analysis workflow."*)(paragraph 93); creating a data set comprising the cleaned data and the audit trail (i.e. *"Managing access to a data source may be implemented by encapsulating each of a plurality of data sources in an associated software wrapper configured to provide an object representation of data from the data source, providing outputs of the software wrappers to a software accumulator that aggregates data to generate an aggregate data representation"*)(paragraph 48); and generating output data using said data set (i.e. *"To provide for interaction with a user, a computer system may have a display device such as a monitor or LCD screen for displaying information to the user..."*)(paragraph 119).

As per claim 2, Vlahos teaches a method comprising the further step of standardising the format of the received data before the cleaning step (i.e. *"Data wrappers 24 access data from the associated data source's original location and in the original format, and isolate applications receiving the data from the protocols and formats required to interact with the data sources 22."*)(Page 5, paragraph [0069]).

As per claim 3, Vlahos teaches method a comprising the further step of splitting the standardised data into respective data types before the cleaning step (i.e. *"The tools and/or data sources present at sites in a split node may be mutually exclusive, partially overlapping, or entirely redundant, depending on implementation and design preferences."*)(Page 2, paragraph [0112]).

As per claim 4, Vlahos teaches a method in which the audit trail is performed at sub-field level so that there are audit entries in respect of every part of every field that has been modified (i.e. *"A complete history of every result in the system can be maintained as an audit trail, and the audit trail can be an analysis pipeline for high throughput repetitive analysis."*)(Page 2, paragraph [0034]).

As per claim 5, Vlahos teaches a method in which the audit trail comprises a measure of the quality of the data in said data set (i.e. *"The application server 36 keeps a log of a user's actions in an audit trail 100, which may be as simple as a text file or something more structured, such as a relational database."*)(Page 2, paragraph [0093]).

As per claim 6, Vlahos teaches a method in which the cleaning step is carried out independently in respect of some or all of the respective data types (i.e. *"This requires data cleansing, data association, and a periodic population (i.e., update) of the repository so it can be accessed consistently by all applications."*)(paragraph [0009]).

As per claim 7, Vlahos teaches a method in which the respective data types comprise names and addresses, and the cleaning step is applied to names and addresses included in the received data (i.e. *"The first is to build a centralized data warehouse. This requires data cleansing, data association, and a periodic population (i.e., update) of the repository so it can be accessed consistently by all applications."*)(paragraph [0009]).

As per claim 8, the limitations of this claim has been addressed and/or rejected based on the dependency of claim 6.

As per claim 9, Vlahos teaches a method in which the cleaning step comprises the step of standardising the respective data against a predetermined standard (i.e. *"There are two common approaches to integrating data, i.e., combining data, from heterogeneous sources. The first is to build a centralized data warehouse. This requires data cleansing, data association, and a periodic population (i.e., update) of the repository so it can be accessed consistently by all applications. This approach provides a consistent format of data, which benefits applications that access the warehouse."*)(paragraph [0009]).

As per claim 10, the limitations of this claim has been addressed and/or rejected based on the dependency of claim 9.

As per claim 11, the limitations of this claim has been addressed and/or rejected based on the dependency of claim 9.

As per claim 12, Vlahos teaches a method in which the cleaning step comprises standardising the data through the application of rules (i.e. *"Application wrappers 40 specifically written for each tool 18 (so, in the illustration, tool 18a has a corresponding wrapper 40a, tool 18b corresponds with wrapper 40b, tool 18c corresponds with wrapper 40c) convert data into desired input format of the corresponding tool 18 by data transformation rules when necessary."*)(paragraph [0091]).

As per claim 13, the limitations of this claim has been addressed or rejected based on the dependency of claim 12.

As per claim 14, the limitations of this claim has been addressed or rejected based on the dependency of claim 12.

As per claim 15, Vlahos teaches a method in which standardisation against a list is performed in combination with standardisation through rules (i.e. *"Application wrappers 40 specifically written for each tool 18 (so, in the illustration, tool 18a has a corresponding wrapper 40a, tool 18b corresponds with wrapper 40b, tool 18c corresponds with wrapper 40c) convert data into desired input format of the corresponding tool 18 by data transformation rules when necessary."*)(paragraph [0091]).

As per claim 16, Vlahos teaches a method in which the cleaning step comprises an automated cleaning process which is intelligent such that it learns from decisions made by human intervention (i.e. *"There are two common approaches to integrating data, i.e., combining data, from heterogeneous sources. The first is to build a centralized data warehouse. This requires data cleansing, data association, and a periodic population (i.e., update) of the repository so it can be accessed consistently by all applications. This approach provides a consistent format of data, which benefits applications that access the warehouse."*)(paragraph [0009]).

As per claim 24, Vlahos teaches a method in which the method comprises the further step of de-duplication of data in said data set (i.e. *"The accumulator de-duplicates data by removing duplicate or redundant data, normalizes data by applying algorithms to normalize the data*

against known reference values, and by applying domain-specific ontology to normalize the vocabulary across various data sources.”)(Page 2, paragraph [0022]).

As per claim 25, the limitations of this claim has been rejected and/or addressed based on the dependency of claim 24.

As per claim 26, the limitations of this claim has been rejected and/or addressed based on the dependency of claim 1.

As per claim 28, the limitations of this claim has been rejected and/or addressed based on the dependency of claim 24.

As per claim 30, Vlahos teaches an apparatus which is further arranged for generating output data using said data set (i.e. *“A visualization server, which is a specialized version of the processing server, provides a visualization framework by incorporating a variety of viewers, visualizers, and data mining tools. Each of these visualization tools has a wrapper that abstracts the tools to form a visualization framework that allows the user to view the outputs of queries or the results of analyses.”*)(paragraph [0028]).

As per claims 31-33, the limitations of these claims were addressed and/or rejected based on the dependency of claim 29.

As per claim 34 and 35, Vlahos teaches a computer program product comprising at least one data carrier carrying a computer program comprising code portions that when loaded and run on a computer cause the computer to carry out (i.e. *"In one implementation, an information server combines data from heterogeneous sources. The information server serves as middleware between applications and analysis modules, and the data sources. Each data source is associated with a data wrapper that publishes virtual tables of the information in the data source. An advantage of using a wrapper is that the data remains in the original location and the data source's native processing capabilities may be used to access the information. The wrapper may cache data that does not change very frequently to speed up subsequent queries."*)(Page 2, paragraph [0021]).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 17-23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vlahos et al (U.S. Patent Pub. 2002/0133504 A1 and known hereinafter as Vlahos) in view of Kuhlmann et al (U.S. Patent Pub. 2004/0167897 A1 and known hereinafter as Kuhlmann).

As per claim 17, Vlahos does not explicitly teach a method comprising the further step of matching data records in said data set which relate to a common entity and which originate from respective distinct data sources.

Kuhlmann teaches a method comprising the further step of matching data records in said data set which relate to a common entity and which originate from respective distinct data sources (i.e. *"The invention also relates to a system and a method for analyzing at least one information database utilizing a network processor. First, a searchable database record table is provided comprising at least one data packet containing fixed length fields in fixed order. Next, criteria are established for a search through the record table. Then, at least one classification record is constructed to match the criteria. Finally, an action to be taken is determined based upon a positive or a negative criteria match."*)(paragraph [0015]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method comprising the further step of matching data records in said data set which relate to a common entity and which originate from respective distinct data sources with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020].

As per claim 18, Vlahos does not explicitly teach a method in which the step of matching data records comprises the step of comparing a plurality of data items in respective data records to decide whether the data records relate to a common entity.

Kuhlmann teaches a method in which the step of matching data records comprises the step of comparing a plurality of data items in respective data records to decide whether the data records relate to a common entity (i.e. *"A typical database may be scanned several times within a short time interval to search for all items within the database that match a user-defined set of criteria. The first step 100 comprises getting a query, followed by the next step 102 of searching a database. The match statistics are collected in the next step 104. Each match is scanned in*

step 106 to determine its significance. If the match is determined to be significant, it is marked for analysis in the next step 108. If the match is determined not to be significant, it is returned in step 110 to the first step 100.")(paragraph [0024]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method in which the step of matching data records comprises the step of comparing a plurality of data items in respective data records to decide whether the data records relate to a common entity with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020]).

As per claim 19, Vlahos does not explicitly teach a method in which at least one threshold level of similarity between data items is specified, such that the threshold must be met or exceeded before a match is determined.

Kuhlmann teaches a method in which at least one threshold level of similarity between data items is specified, such that the threshold must be met or exceeded before a match is determined (i.e. *"The search engine can also search for new, statistically significant match conditions, by searching for all combinations of a set of fields and comparing match counters values to predetermined threshold values."*)(paragraph [0013]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method in which at least one threshold level of similarity between data items is specified, such that the threshold must be met or exceeded before a match is

determined with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020].

As per claim 20, Vlahos does not explicitly teach a method in which decisions on matching are governed by a set of matching rules which specify a plurality of matching criteria at least one of which must be met before a match can be determined.

Kuhlmann teaches a method in which decisions on matching are governed by a set of matching rules which specify a plurality of matching criteria at least one of which must be met before a match can be determined (i.e. *"A typical database may be scanned several times within a short time interval to search for all items within the database that match a user-defined set of criteria. The first step 100 comprises getting a query, followed by the next step 102 of searching a database. The match statistics are collected in the next step 104. Each match is scanned in step 106 to determine its significance. If the match is determined to be significant, it is marked for analysis in the next step 108. If the match is determined not to be significant, it is returned in step 110 to the first step 100."*)(paragraph [0024]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method in which decisions on matching are governed by a set of matching rules which specify a plurality of matching criteria at least one of which must be met before a match can be determined with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020].

As per claim 21, Vlahos does not explicitly teach a method in which each matching criterion identifies at least one predetermined type of data item and at least one similarity threshold.

Kuhlmann teaches a method in which each matching criterion identifies at least one predetermined type of data item and at least one similarity threshold (i.e. *"The search engine can also search for new, statistically significant match conditions, by searching for all combinations of a set of fields and comparing match counter values to predetermined threshold values."*)(paragraph [0013]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method in which each matching criterion identifies at least one predetermined type of data item and at least one similarity threshold with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020]).

As per claim 22, the limitations of this claim has been addressed and/or rejected based on the dependency of claim 17.

As per claim 23, Vlahos teaches a method in which an output of the matching process is used to modify the cleaning step (i.e. *"A visualization server, which is a specialized version of the processing server, provides a visualization framework by incorporating a variety of viewers, visualizers, and data mining tools. Each of these visualization tools has a wrapper that abstracts the tools*

to form a visualization framework that allows the user to view the outputs of queries or the results of analyses.”)(paragraph [0028]).

As per claim 27, Vlahos does not explicitly teach a method in which the matching step is performed iteratively.

Kuhlmann teaches a method in which the matching step is performed iteratively (i.e. *“The present invention provides faster and more efficient methods to analyze large information database to locate all records that match a dynamic set of user-defined criteria or to identify new correlation and new trends across different types of consumers, different local sales areas, different times of the year, and between different product categories.”)(paragraph [0011]).*

It would have been obvious to a person of ordinary skill in the art at the time of Applicant’s invention to modify the teachings of Vlahos with the teachings of Kulmann to include a method in which the matching step is performed iteratively with the motivation to provide tools useful for the integration and analysis of data from disparate, heterogeneous sources and formats (Vlahos, page 2, paragraph [0020].

Contact Information

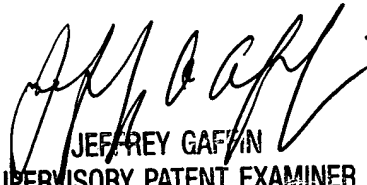
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhan M. Syed whose telephone number is 571-272-7191. The examiner can normally be reached on 8:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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